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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/663,995	09/18/2000	H. Kenneth Staffin	2453-80A	4548

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PITNEY HARDIN LLP  
7 TIMES SQUARE  
NEW YORK, NY 10036-7311

EXAMINER
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DOROSHENK, ALEXA A

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 02/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/663,995

Applicant(s)

STAFFIN ET AL.

Examiner

Alexa A. Doroshenk

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 and 12-25 is/are pending in the application.
- 4a) Of the above claim(s) 12-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12-9-04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1, 2 and 4-7 continue to be rejected under 35 U.S.C. 103(a) as being unpatentable over Bickford et al. (US 6,253,830 B1) in view of Menon et al. (5,908,804).

With respect to claims 1 and 2, Bickford et al. discloses a fluid bed (6) reactor for a furnace (7) for heat treating parts (col. 1, lines 8-12) comprising a fluid bed (6) in a furnace (7) including at least one door for entry (13, 14) and exit (15, 16) of parts (17) and a gas phase distributor (5) discharging into the fluid bed of granular solids (6) (col. 5, lines 32-46). Bickford et al. fails to disclose a gas distributor which comprises a plurality of tuyeres coupled to and mounted beneath the piping array in a perpendicular orientation.

Menon et al. discloses a fluidizing apparatus in which combustion takes place and wherein the gas distributor comprises a plurality of tuyeres (20) coupled to and mounted beneath a piping array (18) in a perpendicular orientation with openings in the bottom portion thereof and teaches that such an orientation achieves enlargement of the combustion zone (such an orientation can be seen in fig. 1-4; col. 5, lines 57-60).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the gas distributor of Menon et al. in the apparatus of Bickford et al. in order to enlarge the combustion region in the fluidized bed of particles so as enhance Bickford et al.'s fluidized bed to debond sand cores (col. 5, lines 38-60).

With respect to claim 4, Bickford et al. discloses wherein metal castings (17) (col. 2, lines 63-65) are in the fluid bed of granular solids (6) (col. 5, lines 34-37).

With respect to claim 5, Bickford et al. discloses wherein the metal castings with sand cores (col. 3, lines 42-45) in the fluid bed of granular solids (6) (col. 5, lines 31-37).

With respect to claims 6 and 7, Bickford et al. discloses wherein the metal parts/castings are of aluminum (col. 3, lines 42-45).

3. Claim 3 continue to be rejected under 35 U.S.C. 103(a) as being unpatentable over Bickford et al. (US 6,253,830 B1) in view of Menon et al. (5,908,804) and further in view of Robinson et al. (3,763,830).

With respect to claim 3, though Bickford et al. discloses wherein maintaining an elevated temperature is essential to accomplish the decomposition of the bonding agent (col. 5, lines 56-60) and recovering a very high quality of recovered sand (col. 5, line 66-col. 6, lines 6), Bickford et al. and Menon et al. fail to disclose wherein the gas phase distributor further comprises a heat exchanger in a feed line to the gas phase distributor such that the heat exchanger location is above the fluidizing gas distribution ports and submerged in the fluidized solids.

Robinson et al. discloses a fluidized bed combustion apparatus where distribution is required in the fluidized bed, such as in the modified apparatus of Bickford et al. Robinson et al. discloses wherein a heat exchanger feed line (38) is located above the distribution ports (33, 34, 35) and submerged in the fluidized bed (30) in order to control operating temperature (col. 7, lines 39-54). It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the heat

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exchange teaching of Robinson et al. in the apparatus of Bickford et al. in order to provide greater control of temperature and ensure operation of the temperature conditions required by Bickford et al.

4. Claims 1, 2 and 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bickford et al. (WO 98/14291) in view of Menon et al. (5,908,804).

With respect to claims 1 and 2, Bickford et al. discloses a fluid bed (6) reactor for a furnace (7) for heat treating parts (p. 1, lines 6-11) comprising a fluid bed (6) in a furnace (7) including at least one door for entry (13, 14) and exit (15, 16) of parts (17) and a gas phase distributor (5) discharging into the fluid bed of granular solids (6) (p. 11, lines 5-15). Bickford et al. fails to disclose a gas distributor which comprises a plurality of tuyeres coupled to and mounted beneath the piping array in a perpendicular orientation.

Menon et al. discloses a fluidizing apparatus in which combustion takes place and wherein the gas distributor comprises a plurality of tuyeres (20) coupled to and mounted beneath a piping array (18) in a perpendicular orientation with openings in the bottom portion thereof and teaches that such an orientation achieves enlargement of the combustion zone (such an orientation can be seen in fig. 1-4; p. 11, lines 26-31).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the gas distributor of Menon et al. in the apparatus of Bickford et al. in order to enlarge the combustion region in the fluidized bed of particles so as enhance Bickford et al.'s fluidized bed to debond sand cores (p. 11, lines 5-31).

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With respect to claim 4, Bickford et al. discloses wherein metal castings (17) (p. 5, lines 6-12) are in the fluid bed of granular solids (6) (p. 10, line 32 – p. 11, line 4).

With respect to claim 5, Bickford et al. discloses wherein the metal castings with sand cores (p. 6, lines 19-22) in the fluid bed of granular solids (6) (p. 10, line 28 – p. 11, line 4).

With respect to claims 6 and 7, Bickford et al. discloses wherein the metal parts/castings are of aluminum (p. 6, lines 19-24).

5. Claim 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bickford et al. (WO 98/14291) in view of Menon et al. (5,908,804) and further in view of Robinson et al. (3,763,830).

With respect to claim 3, though Bickford et al. discloses wherein maintaining an elevated temperature is essential to accomplish the decomposition of the bonding agent (p. 11, lines 26-31) and recovering a very high quality of recovered sand (p. 12, lines 4-13), Bickford et al. and Menon et al. fail to disclose wherein the gas phase distributor further comprises a heat exchanger in a feed line to the gas phase distributor such that the heat exchanger location is above the fluidizing gas distribution ports and submerged in the fluidized solids.

Robinson et al. discloses a fluidized bed combustion apparatus where distribution is required in the fluidized bed, such as in the modified apparatus of Bickford et al. Robinson et al. discloses wherein a heat exchanger feed line (38) is located above the distribution ports (33, 34, 35) and submerged in the fluidized bed (30) in order to control operating temperature (col. 7, lines 39-54). It would have been obvious to

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one of ordinary skill in the art at the time the invention was made to apply the heat exchange teaching of Robinson et al. in the apparatus of Bickford et al. in order to provide greater control of temperature and ensure operation of the temperature conditions required by Bickford et al.

### ***Response to Arguments***

6. Applicant's arguments filed December 9, 2004 have been fully considered but they are not persuasive.

#### **35 USC 103(a)**

Applicants submit that Bickford U.S. Patent No. 6,253,830 B1 is not prior art because both the Bickford patent and the present application are "commonly-owned" and therefore Bickford is disqualified as prior art pursuant to 35 USC 103(c).

The examiner respectfully disagrees with applicant. A statement of common ownership can only exclude prior art applied under 35 USC 120(e) if the present application is related to the prior art as a continuing application. There is no such relationship in the present application. The fact that the reference and the application have the same assignee is not, by itself, sufficient evidence to disqualify the prior art under 35 U.S.C.103(c). There must be a statement that the common ownership was "at the time the invention was made." See MPEP 706.02(L)(1) and MPEP 706.02(L)(2).

The rejection is maintained.

### ***Conclusion***

7. Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on December 9, 2004 prompted the new

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ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609(B)(2)(i). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

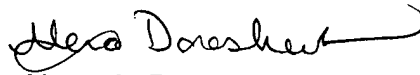
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexa A. Doroshenk whose telephone number is 571-272-1446. The examiner can normally be reached on Monday - Thursday from 9:00 AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Alexa A. Doroshenk  
Examiner  
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